

I claim:

1. A receiver unit for a remote sound monitor, comprising:

an audio receiver that receives a transmitted audio signal having a

parameter that corresponds to an amplitude of a remote sound input; and

5 a display that provides a visual indication of the parameter of the audio
signal.

2. The receiver unit of claim 1, wherein the parameter of the audio signal
is an amplitude of the audio signal.

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3. The receiver unit of claim 1, wherein the display is a lamp.

4. The receiver unit of claim 3, further including a base housing that
encloses the audio receiver.

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5. The receiver unit of claim 4, wherein the lamp is a light source covered
by a casing.

6. The receiver unit of claim 5, wherein the light source is recessed in the
20 base housing.

7. The receiver unit of claim 6, wherein the casing is attached to the base
housing over the recessed light source.

8. The receiver unit of claim 5, wherein the base housing includes a socket, and the light source is coupled to the socket such that the light source extends from the base housing.

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9. The receiver unit of claim 8, wherein the casing is attached to the base housing and encloses the light source.

10. The receiver unit of claim 5, wherein the light source is a light emitting diode.

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11. The receiver unit of claim 5, wherein the light source is a light bulb.

12. The receiver unit of claim 5, wherein the casing is transparent.

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13. The receiver unit of claim 5, wherein the casing is translucent.

14. The receiver unit of claim 5, wherein the casing is an elongated hollow structure.

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15. The receiver unit of claim 14, wherein the casing extends above the base housing.

16. The receiver unit of claim 15, wherein the casing extends above a highest elevation of the structure of the base housing.

17. The receiver unit of claim 5, wherein the casing is fabricated from at least one material selected from the group consisting of acrylic, K-resin, crystal styrene, clarified ABS, and natural HDPE.

18. The receiver unit of claim 1, further including a controller that controls the display in accordance with the parameter of the received audio signal.

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19. The receiver unit of claim 18, wherein the controller includes a microprocessor.

20. The receiver unit of claim 18, wherein the controller includes an analog-to-digital converter.

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21. The receiver unit of claim 18, wherein the controller causes the display to provide the visual indication intermittently when the parameter of the received audio signal exceeds a predetermined threshold value.

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22. The receiver unit of claim 21, wherein the controller includes:

a comparator that receives the audio signal and compares the parameter to the threshold value, to provide a comparison result signal having one of a first value and a second value indicative of the result of the comparison;

a signal generator that generates an intermittent signal; and

5 a display driver that actuates the display continuously if the comparison result signal is the first value, and that actuates the display according to the intermittent signal if the comparison result signal is the second value.

23. The receiver unit of claim 22, wherein the threshold value is
10 adjustable.

24. The receiver unit of claim 23, further including a potentiometer for providing the threshold value.

15 25. The receiver unit of claim 22, wherein the signal generator is a square-wave generator.

26. The receiver unit of claim 21, wherein the controller includes:

a plurality of comparators that receive the audio signal, wherein each
20 comparator of the plurality of comparators compares the parameter of the received audio signal to a respective one of a plurality of threshold values, to provide a plurality of respective comparison result signals, each having one of a first value and a second value indicative of the result of the comparison;

a signal generator that generates a plurality of periodic signals corresponding to respective ones of the plurality of comparators;

a selector that selects a one of the periodic signals that corresponds to the comparator having the most extreme threshold value among all of the

5 comparators providing a comparison result signal having the second value; and

a display driver that actuates the display continuously if all of the plurality of comparators provide comparison results having the first value, and that actuates the display according to the selected periodic signal if any comparator provides a comparison result having the second value.

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27. The receiver unit of claim 26, wherein a frequency of at least one of the plurality of periodic signals is different than a frequency of at least one other of the plurality of periodic signals.

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28. The receiver unit of claim 26, wherein respective frequencies of the plurality of periodic signals correspond in magnitude to relative magnitudes of the respective thresholds of the corresponding comparators.

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29. The receiver unit of claim 18, wherein the controller causes the display to change the visual indication from a first color to a second color when the parameter of the received audio signal exceeds a predetermined threshold value.

30. The receiver unit of claim 29, wherein the display includes a first light element that provides light of the first color, and a second light element that provides light of the second color.

5 31. The receiver unit of claim 30, wherein the controller includes:
a comparator that receives the audio signal and compares the parameter to the threshold value, to provide a comparison result signal having one of a first value and a second value indicative of the result of the comparison;

a first display driver that actuates the first light element if the comparison
10 result signal is the first value; and
a second display driver that actuates the second light element if the comparison result signal is the second value.

15 32. The receiver unit of claim 31, wherein the threshold value is adjustable.

33. The receiver unit of claim 32, further including a potentiometer for providing the threshold value.

20 34. The receiver unit of claim 31, wherein the first light element is green.

35. The receiver unit of claim 31, wherein the second light element is red.

36. The receiver unit of claim 31, wherein the predetermined threshold value is a first predetermined threshold value, and wherein the controller causes the display to provide the visual indication intermittently based on a comparison of the parameter of the received audio signal to a second predetermined threshold value.

37. The receiver unit of claim 36, wherein the comparator is a first comparator and the comparison result signal is a first comparison result signal, and the controller further includes:

10 a second comparator that receives the audio signal and compares the parameter to the second threshold value, to provide a second comparison result signal having one of a first value and a second value indicative of the result of the comparison;

a signal generator that generates an intermittent signal; and

15 a third display driver that actuates the display continuously if the second comparison result signal is the first value, and that actuates the display according to the intermittent signal if the second comparison result signal is the second value.

20 38. The receiver unit of claim 37, wherein the first threshold exceeds the second threshold.

39. The receiver unit of claim 37, wherein the second threshold exceeds the first threshold.

40. The receiver unit of claim 7, wherein the light source is a plurality of light emitting diodes.

41. The receiver unit of claim 40, wherein the base housing has a top end, a bottom end, and an outer sidewall, and the plurality of light emitting diodes are disposed in sequence on the outer sidewall.

42. The receiver unit of claim 41, wherein the casing is a lens cover.

43. The receiver unit of claim 42, wherein the lens cover is constructed from material including at least one of polycarbonate, polypropylene, and acrylic.

44. The receiver unit of claim 41, further including a controller that controls the plurality of light emitting diodes based on the parameter of the received audio signal.

45. The receiver unit of claim 44, wherein the controller includes a microprocessor.

46. The receiver unit of claim 44, wherein the controller includes an analog-to-digital converter.

47. The receiver unit of claim 44, wherein at least one light emitting diode of the plurality of light emitting diodes provides light that is a color that is different from a color of light provided by at least another light emitting diode of the plurality of light emitting diodes.

48. The receiver unit of claim 47, wherein the controller causes the at least one light emitting diode to provide the visual indication when the parameter of the received audio signal exceeds a predetermined threshold value, and the controller causes the at least another light emitting diode to provide the visual indication when the parameter of the received audio signal does not exceed the predetermined threshold value.

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49. The receiver unit of claim 48, wherein the controller includes:

a comparator that receives the audio signal and compares the parameter to the threshold value, to provide a comparison result signal having one of a first value and a second value indicative of the result of the comparison;

20 a first display driver that actuates the at least one light emitting diode if the comparison result signal is the first value; and

a second display driver that actuates the at least another light emitting diode if the comparison result signal is the second value.

50. The receiver unit of claim 44, wherein the controller causes the plurality of light emitting diodes to provide the visual indication in a sequence based on a comparison of the parameter of the received audio signal with a predetermined threshold value.

51. The receiver unit of claim 50, wherein the controller includes:
a comparator that receives the audio signal and compares the parameter to the threshold value, to provide a comparison result signal having one of a first value and a second value indicative of the result of the comparison;
a signal generator that generates an intermittent signal; and
a display driver that actuates at least one light emitting diode of the plurality of light emitting diodes continuously if the comparison result signal is the first value, and that actuates at least some of the plurality of light emitting diodes according to the intermittent signal if the comparison result signal is the second value.

52. The receiver unit of claim 50, wherein the controller includes:
a plurality of comparators that receive the audio signal, wherein each comparator of the plurality of comparators compares the parameter of the received audio signal to a respective one of the plurality of threshold values, to provide a plurality of respective comparison result signals, each having one of a first value and a second value indicative of the result of the comparison;

a signal generator that generates a plurality of periodic signals
corresponding to respective ones of the plurality of comparators;

a selector that selects a one of the periodic signals that corresponds to the
comparator having the most extreme threshold value among all of the

5 comparators providing a comparison result signal having the second value; and

a display driver that actuates at least one light emitting diode of the
plurality of light emitting diodes continuously if all of the plurality of comparators
provide comparison results having the first value, and that actuates at least some
of the plurality of light emitting diodes according to the selected periodic signal if
10 any comparator provides a comparison result having the second value.

53. The receiver unit of claim 52, wherein a frequency of at least one of
the plurality of periodic signals is different than a frequency of at least one other
of the plurality of periodic signals.

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54. The receiver unit of claim 52, wherein respective frequencies of the
plurality of periodic signals correspond in magnitude to relative magnitudes of the
respective thresholds of the corresponding comparators.

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55. The receiver unit of claim 41, wherein the base housing further
includes a spring-force biased clip attached to one of the top end of the base
housing and the bottom end of the base housing.

56. The receiver unit of claim 55, wherein the one of the top end of the base housing and the bottom end of the base housing includes a recessed portion and is otherwise flat, and wherein the spring-force biased clip is attached to the base housing within the recessed portion and is completely disposed within the recessed portion.

57. The receiver unit of claim 41, wherein the top end of the base housing and the bottom end of the base housing are round in cross-section.

58. The receiver unit of claim 1, further comprising an audio speaker that converts the received audio signal to audible sound.

59. The receiver unit of claim 58, further comprising an audio amplification circuit that amplifies the received audio signal and provides the amplified audio signal to the audio speaker.

60. The receiver unit of claim 59, wherein the audio amplification circuit includes noise-reduction circuitry that increases a signal-to-noise ratio of the amplified audio signal.

61. The receiver unit of claim 59, wherein the audio amplification circuit includes a switch that selectably actuates and de-actuates the audio amplification circuit.

62. The receiver unit of claim 59, wherein the audio amplification circuit includes a gain selector that adjusts a gain of the audio amplification circuit.

5 63. The receiver unit of claim 62, wherein the gain selector includes a potentiometer.

64. A remote sound monitor comprising the receiver unit of claim 1 and a transmitter unit, wherein the transmitter unit includes:

10 a sound transducer that receives the sound input and converts the sound input to the audio signal; and
an audio transmitter that transmits the audio signal.

65. The remote sound monitor of claim 64, wherein the sound transducer
15 includes a microphone.

66. The remote sound monitor of claim 65, wherein the sound transducer further includes a processor that provides the parameter.

20 67. The remote sound monitor of claim 64, wherein the sound transducer is a digital sound transducer that provides a digital audio signal.

68. The remote sound monitor of claim 67, wherein the audio transmitter is a digital audio transmitter.

69. The remote sound monitor of claim 68, wherein the audio receiver is a digital audio receiver.

70. The remote sound monitor of claim 64, wherein the transmitter unit includes a lamp.

71. The remote sound monitor of claim 70, wherein the lamp is a light source covered by a casing.

72. The remote sound monitor of claim 71, wherein the transmitter unit includes a base housing that encloses the sound transducer and the audio transmitter.

73. The remote sound monitor of claim 72, wherein the light source is recessed in the base housing.

74. The remote sound monitor of claim 73, wherein the light source is a light emitting diode.

75. The remote sound monitor of claim 73, wherein the casing is attached to the base housing over the recessed light source.

5 76. The remote sound monitor of claim 72, wherein the base housing includes a socket, and the light source is coupled to the socket such that the light source extends from the base housing.

10 77. The remote sound monitor of claim 76, wherein the light source is a light bulb.

78. The remote sound monitor of claim 76, wherein the casing is attached to the base housing and encloses the light source.

15 79. The remote sound monitor of claim 71, wherein the casing is transparent.

80. The remote sound monitor of claim 71, wherein the casing is translucent.

20 81. The remote sound monitor of claim 71, wherein the casing is an elongated hollow structure.

82. The remote sound monitor of claim 71, wherein the casing is fabricated from at least one material selected from the group consisting of acrylic, K-resin, crystal styrene, clarified ABS, and natural HDPE.

5 83. The remote sound monitor of claim 71, wherein the light source includes at least one of electro-luminescent material and thermo-luminescent material.

84. A process for remotely monitoring a sound input, comprising:
10 converting a sound input to an audio signal having a parameter that corresponds to an amplitude of the sound input;
 transmitting the audio signal;
 receiving the audio signal at a location that is remote from the sound input;
 processing the parameter; and
15 providing a visual indication of the amplitude of the sound input.

85. The process of claim 84, wherein providing a visual indication of the amplitude of the sound input includes providing a visual indication that is visible over a three-hundred-sixty degree range at the remote location.

20 86. The process of claim 84, wherein providing a visual indication of the amplitude of the sound input includes providing a continuous visual indication if a comparison of the parameter of the audio signal to a predetermined threshold

results in a first value, and providing an intermittent visual indication if the comparison of the parameter of the audio signal to the predetermined threshold results in a second value.

5 87. The process of claim 86, wherein an interval of intermittence of the intermittent visual indication corresponds to an extent that the parameter exceeds the threshold.

10 88. The process of claim 84, wherein providing a visual indication of the amplitude of the sound input includes providing a visual indication of a first color if a comparison of the parameter of the audio signal to a predetermined threshold results in a first value, and providing a visual indication of a second color if the comparison of the parameter of the audio signal to the predetermined threshold results in a second value.

15 89. The process of claim 84, wherein providing a visual indication of the amplitude of the sound input includes

 providing a visual indication of a first color when the parameter of the audio signal does not exceed a first predetermined threshold,

20 providing a visual indication of a second color when the parameter of the audio signal exceeds the first predetermined threshold,

 providing a continuous visual indication when the parameter of the audio signal does not exceed a second predetermined threshold, and

providing an intermittent visual indication when the parameter of the audio signal exceeds the second predetermined threshold.

90. The process of claim 89, wherein the second threshold exceeds the
5 first threshold.

91. The process of claim 89, wherein the first threshold exceeds the second threshold.